

REMARKS

This Amendment is submitted in reply to the non-final Office Action mailed on March 3, 2010. A Petition for a three month extension of time is submitted herewith this Amendment. The Director is authorized to charge \$1,110.00 for the Petition for a three month extension of time and any additional fees that may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712036-00741 on the account statement.

Claims 1-19 are pending in the application. Claims 18 was previously withdrawn. In the Office Action, the specification is objected to and Claims 1-17 and 19 are rejected under 35 U.S.C. §103. In response, Claims 1, 10 and 19 have been amended. The amendments do not add new matter and are supported in the specification (WO 2005/063036) at, for example, page 4, lines 5-19. In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully request that the rejections be reconsidered and withdrawn.

In the Office Action, Claims 1-8, 10-15, 17 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 2,013,016 to Vogt ("*Vogt*") in view of EP 0221369 to Hammerle ("*Hammerle*"). Applicants respectfully submit that *Vogt* and *Hammerle* are deficient with respect to the present claims.

Currently amended independent Claims 1, 10 and 19 recite, in part, depositing devices comprising a pressurized feed line, piston means operatively connected to the feed line and including a piston and a chamber, and outlet to deliver a food product, and a pressure retaining means for retaining the food in the chamber at the same pressure as a line pressure and delivering the food through the outlet as pressure in the chamber becomes greater than the line pressure upon descent of the piston in the chamber, whereby there is no decrease in food pressure until food exits the outlet. The amendments do not add new matter and are supported in the specification at, for example, page 4, lines 5-19. The present claims are directed to depositing devices for depositing products that contain gas while accurately controlling weight and volume of the deposited mass and uniformity of the foam produced. Such an improvement results by providing a pressure retaining means arranged with the piston means to fill the piston means with pumpable product while the product in the filled chamber is maintained at the line pressure. This keeps the food under pressure until the point at which it is deposited. This largely maintains the

gas within the food so that the food is not in an aerated form. The bubbles only form as the food enters the mould. From then on, there is less physical action on the bubbles to distort them. See, specification, page 3, lines 5-15.

The benefit of maintaining the filled chamber at the line pressure is that it ensures the gas remains in solution so that the depositing mechanism is dealing with a liquid not a foam guaranteeing the correct weight and volume of product delivered. In other words, the gassed product in the chamber is not given the possibility to expand in the chamber in an uncontrolled manner which would, at the time of depositing in the mould leads to dosing accuracy problems, gas pockets or lack of uniform size distribution of the bubbles. More particularly, a pressure retaining means is arranged to retain the product in the chamber at the same pressure as the line pressure and deliver the product through the outlet as pressure in the chamber increases from the line pressure upon descent of the piston in the chamber. The pressure retaining means ensures that the filled chamber is maintained at super-pressure where the gas remains substantially in the dissolved state of transport but also allows the product to be discharged once the pressure exceeds a certain threshold by the effect of the piston descending into the chamber. See, specification, page 3, line 16-page 4, line 3. Applicants respectfully submit that the cited references fail to disclose each and every element of the present claims and that the skilled artisan would have no reason to combine the cited references to arrive at the present claims.

Vogt and *Hammerle* fail to disclose or suggest depositing devices comprising a pressurized feed line, piston means operatively connected to the feed line and including a piston and a chamber, and outlet to deliver a food product, and a pressure retaining means for retaining the food in the chamber at the same pressure as a line pressure and delivering the food through the outlet as pressure in the chamber becomes greater than the line pressure upon descent of the piston in the chamber, whereby there is no decrease in food pressure until food exits the outlet as required, in part, by currently amended independent Claims 1, 10 and 19. Indeed, the Patent Office expressly admits that *Vogt* “does not disclose a piston and chamber outlet with a pressure retaining means.” See, Office Action, page 2, paragraph 5. Instead, the Patent Office relies on *Hammerle* for disclosure of the pressure retaining means. However, Applicants respectfully submit that *Hammerle* fails to remedy the deficiencies of *Vogt*.

For example, the Patent Office states that *Hammerle* discloses an “outlet 9 at atmospheric pressure and pressure retaining means 18 which will open on a pressure increase from the piston lowering for the purpose of better control of the material dosing and [] to provide an easily cleaned outlet.” See, Office Action, pages 5-6, paragraph 5. Applicants first note, however, that nowhere in the English abstract of *Hammerle* is a “pressure retaining means 18” even discussed.

Further, *Hammerle* is entirely directed to a device for dispensing “liquids, pastes, creams and the like” and expressly states that “[t]he dosage device (1) serves for dispensing liquids, pastes, creams and the like, particularly in patisseries and has a storage container (2) preferably constructed as a funnel and a channel (8) provided with a discharge mouth (9) for the medium that is to be dispensed. A dosing cylinder (3) with piston (4) and actuating mechanism (7) is also provided. The dosing cylinder (3) is simultaneously at least a part of the channel (8), and the dosing cylinder (3) with its piston (4) and an outlet valve (6) are arranged coaxially with each other and with the channel (8) so that the flow of the medium to be dispensed from the storage container (2) to the discharge mouth (9) takes place in a direct path and the individual components are above all easily accessible for cleaning and easily demountable. The outlet of the channel (8) is closed by a ball valve (18) that is biased closed by a spring (17).” Thus, the device of *Hammerle* is in direct contrast to the present claims that are directed to devices for dispensing flowable foods containing gas.

Indeed, there is no mention of aerated food materials in *Hammerle* and, in fact, the device shown in the drawings of *Hammerle* would not work properly for a flowable food containing gas under pressure. In *Hammerle* it is important for the gas to remain substantially in the dissolved state. In *Hammerle*, material is sucked into the dosing cylinder (3) as the piston rod (13) is withdrawn and the refilling valve (5) opens. Therefore, as the food material passes through valve (5) into the space below the piston it is going into a region of lower pressure. If the food material were a “flowable food containing gas” this would cause the gas to start to come out of solution leading to the disadvantages described in the present specification, which states that “the benefit of maintaining the filled chamber at the line pressure is that it ensures the gas remains in solution so that the depositing mechanism is dealing with a liquid not a foam guaranteeing the correct weight and volume of product delivered. In other words, the gassed product in the chamber is not given the possibility to expand in the chamber in an uncontrolled manner which

would, at the time of depositing in the mould leads to dosing accuracy problems, gas pockets or lack of uniform size distribution of the bubbles.” See, specification, page 3, lines 16-25.

Further, in *Hammerle*, the pressure in the channel immediately before dosing may be the same as in the feeding hopper, but the gas will already have come out of the dissolved state during the piston withdrawal. In contrast, in the present invention, when valve (8) opens the piston (60) moves back (preferably under control) but it is not sucking the material into the chamber (61) and so the product in the chamber is kept at line pressure (and crucially not below it) at all stages of the filling action ensuring that the gas remains in solution. Because *Hammerle* also fails to disclose or suggest depositing devices comprising a pressurized feed line, piston means operatively connected to the feed line and including a piston and a chamber, and outlet to deliver a food product, and a pressure retaining means for retaining the food in the chamber at the same pressure as a line pressure and delivering the food through the outlet as pressure in the chamber becomes greater than the line pressure upon descent of the piston in the chamber, whereby there is no decrease in food pressure until food exits the outlet as required, in part, by currently amended independent Claims 1, 10 and 19, the cited references fail to disclose or suggest each and every element of the present claims.

Moreover, Applicants respectfully submit that the skilled artisan would have no reason to combine *Vogt* with *Hammerle* to arrive at the present claims because the mode of operation of the device in each reference is completely different. Each reference must be considered as a whole and those portions teaching against or away from each other and/or the claimed invention must be considered. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443 (Fed. Cir. 1986). “A prior art reference may be considered to teach away when a person of ordinary skill, upon reading the reference would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Applicant.” *Monarch Knitting Machinery Corp. v. Fukuhara Industrial Trading Co., Ltd.*, 139 F.3d 1009 (Fed. Cir. 1998), quoting, *In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994).

For example, *Vogt* is entirely directed to a depositing device in which an ice cream mix that is aerated and is frozen in a freezing chamber that is pressurized utilizing a pressure retention valve. This is used to control the foam texture and thus the overall structure of the ice cream product. See, *Vogt*, Abstract. However, the depositing mechanism used in *Vogt* is very

complicated. Even if the person skilled in the art considered to try solving the problems of the prior art discussed in the present specification by combining the teaching of *Vogt* with *Hammerle* using the depositing means of *Hammerle* for ice cream he would not arrive at the solution of the present invention because the device shown in the drawings of *Hammerle* would not work properly for a flowable food containing gas under pressure, as discussed above, and would lead to the disadvantages described in the present specification.

Further, for at least the same reasons set forth above, Applicants submit that references are not properly combinable or modifiable if their intended purpose is destroyed. For instance, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). This is absolutely the case where the device of *Vogt* is configured for dispensing an ice cream mix that is aerated and is frozen in a freezing chamber that is pressurized using a pressure retention valve, and the device of *Hammerle* is configured to dispense liquids, pastes and creams by sucking material into a dosing cylinder as the piston rod is withdrawn, which would immediately cause gas to come out of solution and would result in the disadvantages described in the present specification.

For at least these reasons, Applicant respectfully submits that the combination of *Vogt* and *Hammerle* is deficient with respect to the present claims.

Accordingly, Applicant respectfully requests that the obviousness rejection of Claims 1-8, 10-15, 17 and 19 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

In the Office Action, Claims 11-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Vogt* in view of *Hammerle* as applied to Claim 10 above and further in view of WO 0213618 to Aymard et al. ("*Aymard*"). Applicants respectfully submit that the patentability of Claim 10 as discussed above renders moot the obviousness rejection of Claims 11-16, which are dependent from Claim 10. In this regard, the cited art fails to teach or suggest the elements of Claims 11-16 in combination with the novel elements of Claim 10. Moreover, the Patent Office merely relies on the cited references to recite elements of the dependent claims.

For at least these reasons, Applicant respectfully submits that the combination of *Vogt*, *Hammerle* and *Aymard* fails to render the present claims obvious.

Accordingly, Applicant respectfully requests that the obviousness rejection of Claims 11-16 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

In the Office Action, Claims 1, 9 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,207,352 to Porter et al. ("*Porter*") in view of U.S. Patent No. 3,422,648 to Lemelson ("*Lemelson*"). Applicants respectfully submit that the cited references are deficient with respect to the present claims.

As discussed above, currently amended independent Claims 1 and 19 recite, in part, depositing devices comprising a pressurized feed line, piston means operatively connected to the feed line and including a piston and a chamber, and outlet to deliver a food product, and a pressure retaining means for retaining the food in the chamber at the same pressure as a line pressure and delivering the food through the outlet as pressure in the chamber becomes greater than the line pressure upon descent of the piston in the chamber, whereby there is no decrease in food pressure until food exits the outlet. The amendments do not add new matter and are supported in the specification at, for example, page 4, lines 15-19. As is also discussed above, the present claims are directed to depositing devices for depositing products that contain gas while accurately controlling weight and volume of the deposited mass and uniformity of the foam produced. Such an improvement results by providing a pressure retaining means arranged with the piston means to fill the piston means with pumpable product while the product in the filled chamber is maintained at the line pressure. This keeps the food under pressure until the point at which it is deposited. This largely maintains the gas within the food so that the food is not in an aerated form. The bubbles only form as the food enters the mould. From then on, there is less physical action on the bubbles to distort them. See, specification, page 3, lines 5-15.

The benefit of maintaining the filled chamber at the line pressure is that it ensures the gas remains in solution so that the depositing mechanism is dealing with a liquid not a foam guaranteeing the correct weight and volume of product delivered. In other words, the gassed product in the chamber is not given the possibility to expand in the chamber in an uncontrolled manner which would, at the time of depositing in the mould leads to dosing accuracy problems, gas pockets or lack of uniform size distribution of the bubbles. More particularly, a pressure retaining means is arranged to retain the product in the chamber at the same pressure as the line pressure and deliver the product through the outlet as pressure in the chamber increases from the

line pressure upon descent of the piston in the chamber. The pressure retaining means ensures that the filled chamber is maintained at super-pressure where the gas remains substantially in the dissolved state of transport but also allows the product to be discharged once the pressure exceeds a certain threshold by the effect of the piston descending into the chamber. See, specification, page 3, line 16-page 4, line 3. Applicants respectfully submit that the cited references fail to disclose each and every element of the present claims.

Porter and *Lemelson* fail to disclose or suggest depositing devices comprising a pressurized feed line, piston means operatively connected to the feed line and including a piston and a chamber, and outlet to deliver a food product, and a pressure retaining means for retaining the food in the chamber at the same pressure as a line pressure and delivering the food through the outlet as pressure in the chamber becomes greater than the line pressure upon descent of the piston in the chamber, whereby there is no decrease in food pressure until food exits the outlet as required, in part, by currently amended independent Claims 1 and 19. Instead, *Porter* is entirely directed to methods and apparatuses for dispensing solutions of highly viscous polymeric material and gas that includes a dispenser connected to a pressure regulator. See, *Porter*, Abstract.

The Patent Office asserts that *Porter* discloses “pressure retaining means 108 wherein control 92 operates 108 to open when there is a surge in line pressure caused by 92 coordinating the descent of piston 72 which fully opens valve 66 to increase line pressure substantially as claimed but does not disclose the device to dispense a viscous food.” See, Office Action, page 4, paragraph 7. Applicants note that the Patent Office admits that the valve 108 in *Porter* is actuated by control 92. Further, *Porter* expressly states that “[i]n order to move the needle valve 108 to an open position, pressurized air is introduced into the air cavity 115 through port 118 by a line 154 connected to a source of pressurized air 209.” See, *Porter*, column 10, lines 40-49. Accordingly, it is clear that the valve 108 is driven by a pressurized air source 209 and controller 92 that are not related to the pressure in the chamber becoming greater than the line pressure upon descent of the piston in the chamber as required, in part, by the present claims.

Lemelson also fails to remedy the deficiencies of *Porter* because *Lemelson* fails to disclose or suggest depositing devices comprising a pressurized feed line, piston means operatively connected to the feed line and including a piston and a chamber, and outlet to deliver

a food product, and a pressure retaining means for retaining the food in the chamber at the same pressure as a line pressure and delivering the food through the outlet as pressure in the chamber becomes greater than the line pressure upon descent of the piston in the chamber, whereby there is no decrease in food pressure until food exits the outlet as required, in part, by currently amended independent Claims 1 and 19. Instead, *Lemelson* is entirely directed to an extrusion apparatus with automatic control means for predeterminately controlling operations on pre-shaped elongated members or extrusions as, and immediately after, they are formed so as to automatically vary and predetermine the shape thereof. See, *Lemelson*, column 1, lines 26-30. Further, the Patent Office cites *Lemelson* solely for the disclosure of a viscous food. See, Office Action, page 4, paragraph 7.

For at least these reasons, Applicant respectfully submits that the combination of *Porter* and *Lemelson* is deficient with respect to the present claims.

Accordingly, Applicant respectfully requests that the obviousness rejection of Claims 1-8, 10-15, 17 and 19 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

In the Office Action, Claims 2-6 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Porter* in view of *Lemelson* as applied to Claim 1 above and further in view of U.S. Publication No. 2005/0215660 to Tomikawa et al. ("*Tomikawa*"). Applicants respectfully submit that the patentability of Claim 1 as discussed above renders moot the obviousness rejection of Claims 2-6, which are dependent from Claim 1. In this regard, the cited art fails to teach or suggest the elements of Claims 2-6 in combination with the novel elements of Claim 1. Moreover, the Patent Office merely relies on the cited references to recite elements of the dependent claims.

For at least these reasons, Applicant respectfully submits that the combination of *Porter*, *Lemelson* and *Tomikawa* fails to render the present claims obvious.

Accordingly, Applicant respectfully requests that the obviousness rejection of Claims 2-6 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly request an early allowance of the same. In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

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